

REMARKS

The Office Action mailed October 18, 2001 has been reviewed and carefully considered. Claim 8 is cancelled. Claim 1 has been amended. Claims 1-7 and 9-10 are pending in this application, with claim 1 being the only independent claim. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed October 18, 2001, claims 1-6 and 8-10 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,971,180 (Kobayashi).

Claim 7 stands rejected under 35 U.S.C. § 103 as unpatentable over Kobayashi.

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention is directed to a vibration damping device having a variable damping force. A working cylinder includes a piston connected to an end of a piston rod, wherein the piston is axially movable in the cylinder and divides the cylinder into two work spaces. The cylinder is filled with a damping medium. The piston has first and second check valves. The first check valve allows flow of the damping medium through the first check valve in the compression direction of the piston and the second check valve allows flow through the second check valve in the extension direction of the piston. A third valve having a variable damping force is arranged in series with the first and second check valves in the piston such that the flow of damping medium flows through the third valve in both the compression and extension directions, whereby the third valve controls the damping force in both the compression and extension directions. Furthermore, the vibration damping device is arranged so that the damping medium flows through the damping valve whenever fluid is exchanged between the two work spaces.

It is respectfully submitted that independent claim 1 is not anticipated by Kobayashi because Kobayashi fails to disclose the regulating means is in the piston that the check valves are in and Kobayashi fails to disclose that “said damping fluid is required to flow through said flow path of said damping valve when damping fluid is exchanged between said two working spaces in the rebound and the compression directions of the vibration damper” as recited in independent claim 1.

Kobayashi discloses a shock absorber having an inner cylinder and an outer cylinder defining a space therebetween. A piston is axially movably arranged in the inner cylinder and includes check valves for respectively conducting flow of a damping medium in the compression and extension directions, wherein the piston divides the inner cylinder into a lower working space and an upper working space. Kobayashi also includes lower damping valves between the lower working space of the inner cylinder and a space between the inner and outer cylinders. Furthermore, Kobayashi includes upper damping valves between the upper working space and the space between the inner and outer cylinders.

Kobayashi further comprises a regulating means 90 for selectively blocking the flow of damping fluid through the piston. When flow of damping fluid through the piston is blocked, the flow of damping medium exchanged between the two working spaces is conducted solely via the space between the inner and outer cylinders. The regulating means 90 is arranged in the piston rod separate from the piston in which the check valves are arranged.

Regarding the first reason that claim 1 is not anticipated, Kobayashi discloses that the regulating means 90 is arranged in a second piston provided on the piston rod (see col. 5, lines 20-23). Accordingly, the regulating means is not in the piston 14 which includes the check valves 35, 36. Therefore, Kobayashi fails to disclose “first and second non-return valves

arranged in said piston” and “a damping valve arranged in said piston”. In contrast, Kobayashi discloses that the check valves and the regulating valve are arranged in separate pistons 14, 92.

Furthermore, Kobayashi fails to teach or suggest the recitation “said damping fluid is required to flow through said flow path of said damping valve when damping fluid is exchanged between said two working spaces in the rebound and the compression directions of the vibration damper”. Instead, Kobayashi teaches that the flow of damping medium may selectively be blocked from passing through the piston so that the flow is forced through the space between the inner and outer cylinders. Kobayashi allows damping medium to be exchanged between the upper and lower work spaces without passing through the regulating means.

In view of the above amendments and remarks, it is respectfully submitted that independent claim 1 is not anticipated by Kobayashi. Furthermore, it is respectfully submitted that independent claim 1 is allowable over Kobayashi. Since the regulating means of Kobayashi is only used in an open or closed state, Kobayashi fails to teach the flow is required through the regulating means whenever fluid is exchanged between the two working spaces.

Dependent claims 2-7 and 9-10, being dependent on independent claim 1, are allowable for at least the same reasons.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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AMENDMENTS TO THE SPECIFICATION AND CLAIMS SHOWING CHANGES

In the Claims:

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Amend claim 1 as follows:

1. (Amended) A vibration damper with variable damping force, comprising:
 - a working cylinder filled with damping medium;
 - a piston fastened to a piston rod arranged in an axially movable manner in said working cylinder and dividing the working cylinder into two working spaces;
 - first and second non-return valves arranged in said piston for respectively providing a damping force for the rebound and compression directions of the vibration damper;
 - and
 - a damping valve arranged in said piston and comprising a valve body and a valve seat defining a flow path therebetween, said damping valve being arranged in one of said piston and said piston rod having a variable damping action and arranged in series with each of said first and second non-return valves, thereby acting in both said rebound and compression directions of the vibration damper, wherein said damping valve in series with said first and second non-return valves comprise a sole passage for said damping medium through said piston between said two working spaces such that said damping fluid is required to flow through said flow path of said damping valve when damping fluid is exchanged between said two working spaces in the rebound and the compression directions of the vibration damper.